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NOTES ON MEXICAN EPIDENDRUMS BASED LARGELY ON THE ERIK M. ÖSTLUND COLLECTION

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THE MEXICAN SPECIES of *Epidendrum* have caused more difficulty, in our study of the genus, than those of any other portion of tropical North America. Two reasons for this may be given: first the scarcity of collections coming from this region and secondly the unrecognizable specific descriptions in two of the more important publications on Mexican orchids. These publications are *Novorum vegetabilium descriptiones—Orchidianum opusculum* by La Llave and Lexarza, and *Orchidiographie mexicanæ* (in *Ann. Sci. Nat. ser. 3, 3* (1845)) by A. Richard and H. G. Galeotti.

The study of the collection of *Epidendrum*s represented in the herbarium of Mr. Erik M. Östlund of Cuernavaca, Morelos, Mexico has aided us not only to form a clearer conception of several doubtful species, but also to gain a surer knowledge of the characters of many little-known species. It contains seventy-two different forms, of which four are new species, three extend the known range (*E. conopseum* R. Br., *E. Schlechterianum* Ames and *E. verrucosum* Sw.) and four represent species which were very inadequately known.

Prior to the study of Östlund's material we recognized ninety-four valid species of *Epidendrum* as components of the Mexican flora. In addition to these ninety-four species there were eighteen species (largely those of La Llave and Lexarza and of A. Richard and Galeotti) which we consider indeterminable and five species which were reported as Mexican, or a possible total of one hundred and seventeen species which might occur in Mexico.

Of these the Östlund Herbarium contains sixty-four or 58%—a very remarkable showing. The following paper treats the novelties and amplifies the descriptions of three species which were previously uncertain owing to their rarity and lack of adequate description.

***Epidendrum cyanocolumna* Ames, Hubbard & Schweinfurth, sp. nov.**

Herba pusilla, graminea. Radices pro planta crassae. Pseudobulbi graciles, ovoideo-conici, bi-vel trifoliati. Folia linearia, acuta. Inflorescentia saepius laxe paniculata. Flores rari, membranacei. Sepala lateralia oblonga vel oblongo-lanceolata, acuta. Sepalum dorsale oblanceolato-oblongum, acutum. Petala oblanceolato-linearia. Labelium simplex, columnae basi adnatum, cuneato-spathulatum, leviter retusum, prope basim breviter bilamellatum. Columna alis binis erectis oblique triangularibus terminans.

Plant small, slender, up to 11 cm. tall. Roots stout for the plant, fibrous, flexuous, longitudinally sulcate when dry, whitish. Pseudobulbs approximate, 2- to 3-leaved, ovoid-conic, 5-14 mm. long, 2.5-6 mm. in diameter, covered by fibrous remains of sheaths. Leaves linear, grass-like, 3.7-9.5 cm. long, 2-3 mm. wide, acute, at base articulated to slender channelled conduplicate sheaths which are 5-9 mm. long. Inflorescence subequaling or slightly exceeding the leaves, sparsely and openly

paniculate (perhaps rarely racemose); peduncle and rachis filiform, below the floriferous portion provided with three or four loose scarious more or less evanescent sheaths. Floral bracts minute, amplexicaul, acute. Pedicellate ovary glabrous. Flowers membranaceous, sparse. Lateral sepals oblong to oblong-lanceolate, slightly oblique, 6.5–6.9 mm. long, 2.2–2.6 mm. wide, acute, 5-nerved. Dorsal sepal oblanceolate-oblong, 6.1–7 mm. long, 2–2.4 mm. wide, acute, 5-nerved. Petals oblanceolate-linear, about 6.3 mm. long, up to 1 mm. wide, subacute to obtuse, 1-nerved. Lip simple, adnate to the basal part of the column, cuneate-spatulate in outline, free portion of lamina 7–7.6 mm. long, 4–4.5 mm. wide, shallowly retuse at the apex, more or less distinctly indented on each side at the middle, margins irregularly subcrenulate; disc with a pair of short laminate keels below the middle. Column terminating in two prominent erect obliquely triangular wings, with a low small tooth located between them.

Epidendrum cyanocolumna is named from the wings of the column, which when first examined were sky-blue, the central tooth was red-purple. Its nearest ally is *E. tripunctatum* Lindl. (in Bot. Reg. 27 (1841) Misc. p. 66) from which it differs in having smaller flowers, an inflorescence subequalling or exceeding the leaves and much narrower petals.

The second specimen cited varies from the type in having three leaves (the type appears to be consistently 2-leaved). Furthermore, some of the veins of the lip show small crest-like protuberances near their extremity; these are apparently lacking in the type.

MEXICO, State of Puebla, north of Teziutlan. On trees. At 1,520 meters or more altitude. June 10, 1933. *Erik M. Östlund* 2413 (Collector Juan G.). (TYPE in Herb. Ames No. 39432.): State of Tamaulipas, near Jaumave. June 13, 1932. *Erik M. Östlund* 668 (Collector H. W. v. Roszinsky.)

Epidendrum Ghiesbreghtianum *A. Richard & Galeotti* in Comptes Rend. Acad. Sci. Par. 18 (1844) 512, *nomen*; in Ann. Sci. Nat. ser. 3, 3 (1845) 19.

Epidendrum Ghiesbreghtianum Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2 (1918) 462, *sphalm*.

This species was originally inadequately described as follows: "Pseudobulbo oblongo diphylo: foliis lanceolatis: scapo terminali bifloro; sepalis lanceolatis: labello amplo pallide violaceo, late subcordato, sinuoso. Aff. *E. ligulato* La Llave."

This description alone is too vague to make possible any helpful conception of the species, but it is clarified by the photograph of the type sheet in the Herb. Mus. Par., a tracing of Galeotti's drawing of the flower in the Reichenbachian Herbarium and photographs of sheets of this species in Herb. Kew. and Herb. Reichenbach. Unfortunately Galeotti's drawing is somewhat misleading as it shows what appears to be the more unusual form of lip and has led, we believe, to some confusion. Furthermore the sheet at Kew containing several collections, the data for which is mostly in the handwriting of R. A. Rolfe, has at least one envelope the contents of which Rolfe determined as *E. hastatum* Lindl., though the visible evidence places the material in *E. Ghiesbreghtianum*.

Among the collections of *Epidendrum* sent by Mr. Östlund, there was a sheet of what we believed to be a new species, but which fortunately Ames suggested bore earmarks of *E. Ghiesbreghtianum* and a restudy of a photograph of the type and other information available has convinced us that it represents that species.

The following amplified description drawn from the newly acquired Östlund specimens (supplemented by a sheet in the United States National Herbarium which has been restudied) and the information previously available will, we trust, clarify another of the obscure Mexican

species.

Plant 12.5–25 cm. high, provided at base with a rhizome. Roots numerous, fibrous. Pseudobulbs approximate, narrowly ovoid or fusiform, 3.2–6.5 cm. long, 5.5–11.1 mm. in diameter where broadest, 2- or sometimes 3-leaved, finely rugose in the dried specimens, obliquely ascending. Leaves ligulate or narrowly elliptic-ligulate, 7–16.9 cm. long, 6–12 mm. wide, acute to obtuse, long-conducuplicate at base, subcoriaceous, apparently glaucous, mid-nerve sometimes rather prominent. Inflorescence up to 11.3 cm. long (scape including the rachis) 1- or 2-flowered as seen, with a prominent scarious sheath (about 3.7 cm. long in the Östlund specimen) at the base and near the middle of the peduncle a small amplexicaul scarious long-acuminate bract. Flowers large and showy, about 1.5–2 cm. apart. Sepals and petals maroon with narrow greenish white margins within, and olivaceous without in the dried (Östlund) specimen, fleshy. Lateral sepals obliquely lanceolate, 15–19 mm. long, 4.2–6 mm. wide, acuminate, dorsally carinate near the tip. Dorsal sepal lanceolate, 15–20 mm. long, 4–6 mm. wide. Petals lanceolate to elliptic-lanceolate, 14–18 mm. long, 2.7–4.5 mm. wide, acute to acuminate. Lip pure white with purple striae at the base of the side lobes (Östlund specimen), practically simple to 3-lobed near the base, suborbicular-quadrate or flabellate-reniform in outline, 16–27 mm. long (from base of column to extreme tip of lamina), 16–29 mm. wide, adnate to the column near the cuneate base, submembranaceous, abruptly broadened from a short-cuneate base; lateral lobes (if present) small, variable, free portion suborbicular, triangular, oblong-ovate or only lobulate; mid-lobe suborbicular or subquadrate-reniform, many times larger than the small lateral lobes, margin irregular and lobulate, apex apiculate, retuse or even deeply bilobed; disc fleshy-thickened at the base,

the thickening usually running out onto the three central veins which are farinaceous in their lower portion. Column short and very broad, very fleshy, about 5.4–6.5 mm. long, apex prominently 3-toothed, lateral teeth triangular, middle tooth larger, subquadrate and retuse or broadly rounded.

Epidendrum Ghiesbreghtianum is a close ally of *E. hastatum* Lindl., but has much larger flowers and 2-leaved pseudobulbs. It is undoubtedly in the same alliance with *E. venosum* Lindl. The aspect of its flowers is very suggestive of a *Miltonia*.

MEXICO, State of Oaxaca, parasite sur les chênes. Mars. *Ghiesbreght* 6 (TYPE in Herb. Mus. Par.); road between Plunia and San Miguel, Suchistepec. Altitude 8,500 feet. March 21, 1895. *E.W. Nelson* 2506 (U. S. Nat. Herb.): State of Guerrero, near Chilpancingo. At 1,400 meters altitude. Collected in 1927, flowered at Cuernavaca March 18, 1932. *Erik M. Östlund* 2779: *Antonio* ex Kienast-Zolly, Zürich, August 1889 (Herb. Kew.)

***Epidendrum Juergensii* Reichenbach filius** in Gard. Chron., ser. 2, 14 (1880) 524, in obs.

Epidendrum gladiatum Lindley in Bentham, Pl. Hartweg. (1840) 72, non Lindl., Gen. & Sp. Orch. Pl. (1831).

Epidendrum anisatum Lindley, Fol. Orch. Epid. (1853) p. 65, non La Llave & Lex.

This inadequately known species has caused considerable confusion. Lindley originally confused it with *E. gladiatum* Ruiz & Pav. and later believed that he was dealing with *E. anisatum* La Llave and Lex. Reichenbach stated that the Lindley conception of *E. anisatum* as represented by the Mexican collection of Hartweg from Rancho del Ojo de Agua could not be the plant described by La Llave and Lexarza. Unfortunately, however, Reichenbach failed to describe the species adequately and left us still dependent on the weak and somewhat faulty

description of Lindley and the Herbarium sheet of the Hartweg plant which bears a rather sketchy drawing of the lip made by Lindley.

Among the collections of *Epidendrum* from the Herbarium of Erik M. Östlund are two numbers which careful study has led us to believe represent the *E. Juergensii* of Reichenbach. We herewith give an amplified description of the species based on these collections, bearing in mind the sheet in the Lindley Herbarium.

Plant erect, 15–44 cm. tall. Roots long, coarse, fibrous, fasciculate, finely tomentose. Stems caespitose, simple, leafless below, concealed by close tubular scarious evanescent sheaths, bearing near the summit three to four leaves, about 2–3 mm. in diameter. Leaves narrowly lanceolate to linear-lanceolate, 3.6–17.8 cm. long, 4–8 mm. wide, acuminate to an obtuse apex, coriaceous, with the margins revolute in the dried specimen, mid-nerve prominently sulcate above and conspicuous beneath. Inflorescence much shorter than the leaves, strict, shortly paniculate with the branches subumbellate and more or less recurved. Peduncle to the lowest branch up to about 2.8 cm. long. Bracts of the inflorescence small (about 3–5 mm. long), relatively rather broad, scarious, concave, subacute. Flower long-pedicellate, rather small, membranaceous. Sepals and petals revolute. Lateral sepals asymmetrically obovate to obovate-lanceolate, 5–7 mm. long, 2.5–3 mm. wide, very oblique at the base and adnate to the column, acute, more or less cucullate above. Dorsal sepal obovate-oblong, 4.1–7 mm. long, about 2–2.9 mm. wide, rounded and apiculate or subacute at the apex. Petals oblong-spatulate, 5–7.3 mm. long, about 1–1.5 mm. wide, rounded to subacute. Lip adnate to the column to the apex of the column, reniform in outline, 3-lobed or 3-lobulate in front, 3–3.6 mm. long, 6–7.4 mm. wide, cordate at base; lateral lobes larger than the mid-lobe,

suborbicular, erose on the lateral and forward margins; mid-lobe suborbicular to broadly flattened-triangular (more protuberant in the Lindley drawing), retuse with rounded lobules; disc bicallose at base, with three central parallel more or less evanescent fleshy lines. Column large for the flower, strongly dilated above, 4.5–5.6 mm. long.

Vegetatively (aside from being taller) the Östlund specimens agree in essential characters with the Hartweg plant. The flowers of the Hartweg specimen are approximately the same size and appear similar in outline, but the lip, as drawn by Lindley, has a more protuberant mid-lobe and lacks the erose margins. The drawing, however, seems to be rather sketchy.

The floral parts of the Östlund specimens appear to be suffused with purple, especially the petals, the column and the mid-lobe of the lip.

MEXICO, Rancho del Ojo de Agua, April. *Hartweg s.n.* (TYPE in Herb. Kew. (Herb. Lindley)): State of Guerrero, near Carrizal, southwest of Chilpancingo. On oaks. At 800 meters altitude. November 12, 1932, flowered in greenhouse August 31, 1933. *Erik M. Östlund 1659* (Collector Juan G.); near "Los Fresnos", southwest of Guayaméo. In mixed oak and pine forest on trees. At 2,400 meters altitude. October 5, 1933. *Erik M. Östlund 3103* (Collector O. Nagel).

Epidendrum lancifolium *Pavon apud Lindley*, Gen. & Sp. Orch. Pl. (1831) 98.

Epidendrum Langlassei Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2 (1918) 404.

This species, based on a plant collected in Mexico by Pavon, has been a source of much perplexity. The original description is diagnostic, but not very full. The excellent plate in the Botanical Register (Bot. Reg. 28 (1842) t. 50) is not sufficiently detailed to make certain that a distinct species and not a variety of *E. cochleatum* L. is represented.

In 1918, Rudolf Schlechter described, under the

name of *E. Langlassei*, a species which we had believed constituted a distinct species. The lip showed striking variation both from *E. lancifolium* and from *E. cochleatum* in being less cochleate and somewhat 5-angled. Furthermore, the floral measurements were smaller and the calli as described were different, but it is nevertheless conspecific with *E. lancifolium*.

Among the specimens sent by Östlund were several which showed characters intermediate between *E. lancifolium* and *E. Langlassei*. Critical study of the group has convinced us that *E. lancifolium*, *E. Langlassei* and the Östlund specimens constitute a single variable species of which one extreme (the larger form with a more cochleate lip) is represented by the plate in the Botanical Register and the other extreme (the smaller form with a less cochleate and more or less 5-angled lip) is represented by the *E. Langlassei* of Schlechter.

The specimens of the Östlund collection referred to *Epidendrum lancifolium* show some differences from the form illustrated. All, in common with *E. Langlassei*, show a lip which is bicostate at base, that is with a central pair of more or less developed ridges or elongated swellings, while *E. lancifolium*, is described as having a lip which is tricostate at base. Furthermore, one of the Östlund specimens shows the sharply acute to short-acuminate leaves typical of *E. Langlassei*, whereas the others have the blunter more obtuse leaves typical of *E. lancifolium*. The flowers of the Östlund specimens are decidedly smaller than those of *E. lancifolium* (as illustrated), but about the same size as those of *E. Langlassei*. The 5-angled character of the lip seems very variable.

MEXICO, *Pavon* (TYPE in Herb. Lambert (in Brit. Mus. ?)); *Hort. Loddiges* (in Herb. Lindley): States of Michoacan and Guerrero, Campo Morado, *Langlassé 1057* (error of Schlechter 1059): State of Guerrero, near Omiltemí, southwest of Chilpancingo. *Erik*

M. Östlund 814 (Collector Juan G.) ; near Joveritos, kilometer 353 road Mexico-Acapulco. *Erik M. Östlund 2436* : State of Michoacan, Mt. Palma Cuata near Uruapan. *Erik M. Östlund 2398* (Collector Pablo L.)

***Epidendrum magnispatha* Ames, Hubbard & Schweinfurth, sp. nov.**

Herba epiphytica, robusta. Pseudobulbus breviter stipitatus, late ovoideus, bifoliatus. Folia elliptica, quam inflorescentia paulo breviora. Pedunculus spatha permagna conduplicata maxima pro parte obtectus. Racemus laxe pluriflorus. Flores magni. Sepala lateralibus elliptica, obtusa. Sepalum dorsale oblanceolatum, apice rotundatum. Petala oblanceolata-elliptica, apice rotundata. Labellum columnae medio affixum ; lamina transverse rhomboidea, trilobulata ; lobi laterales rotundato-triangulares ; lobus medius semicircularis ; discus callo crasso mediano subquadrato apice in callum bulbosum extenso. Columna apice trilobata.

Plant stout, epiphytic, about 33.8 cm. tall to the tip of the uppermost flower. Roots large, fibrous, glabrous. Pseudobulb ovoid, abruptly dilated from a short stipitate base, bifoliate, about 8 cm. long including the base, 4.75 cm. in diameter, the lower portion concealed by the fibrous remains of sheaths. Leaves elliptic, 22–23.7 cm. long, 5.4–6.05 cm. broad, acute to subacute at the somewhat conduplicate and twisted apex, narrowed toward the base, subcoriaceous, many-nerved. Inflorescence racemose, loosely 8-flowered in the specimen observed, about 25 cm. long. Peduncle about 12.3 cm. long below the flowers, mostly concealed by a very conspicuous foliaceous spathe. Spathe about 11.4 cm. long, strongly conduplicate, the width 1.2 cm. from midrib to margin, apparently broadly rounded at the apex. Rachis about 9.5 cm. long. Flower large, about 4–4.5 cm. across the lateral sepals when expanded, with spreading segments. Pedicellate ovary about 2 cm. long, glabrous. Lateral

sepals elliptic, 2.2 cm. long, 7.5 mm. wide, obtuse to subacute. Dorsal sepal oblanceolate, about 2.1 cm. long, 7 mm. wide, obtuse. Petals similar to the dorsal sepal, oblanceolate-elliptic, about 2.1 cm. long, 6–6.5 mm. wide, rounded at the apex. Lip adnate up to the middle of the column, about 14 mm. long (tip of lip to base of column), 12 mm. broad across the lateral lobules; lamina transversely rhomboid in outline from a subquadrate claw, trilobulate with a shallow sinus on each side, about 8 mm. long; lateral lobes rounded-triangular, horizontally spreading; mid-lobe semicircular in general outline (appearing trilobulate on account of the bulbous thickening at its tip); disc provided in the center with a large fleshy subquadrate depressed callus, somewhat trilobulate at the apex which is produced into an obovoid bulbous thickening extending beyond the lamina. Column oblong in outline, slightly dilated above, prominently 3-toothed at the apex with rounded teeth, 1 cm. long dorsally.

Epidendrum magnispatha is allied to *E. favoris* Reichb.f. and to *E. Boothianum* Lindl. From both it differs in its much larger flowers. It is at once separable from *E. favoris* by the produced not emarginate mid-lobe of the lip and from *E. Boothianum* by its blunter perianth segments and rather differently shaped petals.

The flowers of *E. magnispatha* have the sepals and petals strongly blotched or spotted with reddish brown on a greenish gold ground, the lip is a clear golden yellow and the column is golden yellow with a red-brown base.

MEXICO, State of Guerrero, mountains near Santo Domingo, north of Atoyac, in virgin forest on oaks, at 1,100 meters altitude. Collected January 1, 1933, flowered at Cuernavaca, November 23, 1933. *Erik M. Östlund 2043* (Collector O. Nagel) (TYPE in Herb. Östlund; flowers from type plant in Herb. Ames.)

***Epidendrum Oestlundii* Ames, Hubbard &**

Schweinfurth, sp. nov.

Herba pseudobulbosa, elata. Pseudobulbus ovoideo-cylindraceus, bifoliatus. Folia duo, elliptico-ligulata, coriacea. Inflorescentia laxa et anguste paniculata. Flores parvi, carnosii. Ovarium pedicellatum laeve. Sepala lateralia spathulato-oblongata, acuta, apice dorso carinata. Sepalum dorsale simile. Petala spathulata, acuta. Labellum trilobatum, columnae basi adnatum; lobi laterales falcato-oblongi, apice oblique rotundati; lobus medius unguiculatus, lamina late triangulari-ovata, acuminata; discus medio callo crasso ovato sulcato ornatus. Columna brevis, abrupte reflexa.

Plant about 46 cm. tall. Roots fibrous, short, simple, whitish. Pseudobulb ovoid-cylindric, 4.8 cm. long, diphyllous, rugose and shining in the dried specimen. Leaves elliptic-ligulate, 20–25 cm. long, 2.6–2.95 cm. wide, apex apparently subacute (withered), coriaceous, mid-vein prominent beneath. Inflorescence narrowly and loosely paniculate, about 38 cm. long; peduncle up to the panicle provided with remote short inconspicuous scarious sheaths; panicle 18.6 cm. long. Pedicellate ovary glabrous. Flowers small for the alliance, about 2 cm. across, rather fleshy. Lateral sepals obliquely spatulate-oblongate, 10.5–12 mm. long, 4 mm. wide above the middle, acute, dorsally carinate near the apex, somewhat concave. Dorsal sepal similar, about 9.4 mm. long, 3.8–4 mm. wide. Petals spatulate, 9.9–10.8 mm. long, 4.8–5 mm. wide, acute. Lip 3-lobed, adnate to the base of the column, 8.4–9 mm. long; lateral lobes falcate-oblong, rounded at the apex, free portion 3–3.2 mm. long, about 2 mm. wide in the middle, slightly broader at base; mid-lobe distinctly unguiculate, broadly triangular-ovate; lamina about 5 mm. long and 4.2 mm. wide, shortly acuminate, somewhat undulate toward the apex, veins thickened with the mid-nerve below the apex carinately

so; disc above the claw and the lower third of the mid-lobe provided with an ovate fleshy medianly channelled callus which extends into the thickened mid-nerve. Column short, abruptly reflexed near the base, exauriculate, 4.1–5 mm. long.

Epidendrum Oestlundii is closely allied to, but is separable from *E. selligerum* Batem. apud Lindl. in its smaller flowers and non-pandurate side-lobes of the lip.

MEXICO, State of Guerrero, near Plan del Molino. In mixed forest on trees. At 400 meters or more altitude. Collected January 10, 1933 and flowered in Cuernavaca May 22, 1933. *Erik M. Östlund 2029* (Collector O. Nagel) (TYPE in Herb. Ames No. 39431.)

Epidendrum subulatifolium A. Richard & Galeotti in Comptes Rend. Acad. Sci. Par. 18 (1844) 510, 512, *nomen*; in Ann. Sci. Nat. ser. 3, 3 (1845) 21.

The non-diagnostic original description reads: "Fol. teretibus subulatis acutis: scapo 4-5-floro; flor. intense luteis parvulis: labello suborbiculari integro, sinuoso."

The only specimen of this species at Paris is one (*Galeotti 5326*) determined by Ames in September 1922. The type of the species (*Galeotti 5073*) was loaned to Reichenbach by A. Richard and was found by Ames at Vienna in the Reichenbachian Herbarium. There is also preserved in this herbarium the Galeotti water-color sketch of the species bearing an enlarged drawing (in color) of the flower. The herbarium sheets mentioned are of value in that they show the vegetative habit of the species; Galeotti's sketch, however, is sufficient to place the species.

In the material of *Epidendrum* sent for study by Mr. Östlund are two sheets which agree excellently with Galeotti's sketch. We herewith submit an amplified description of this heretofore uncertain species based upon these specimens and the data available from the photo-

graphs of the Galeotti specimens and the copy of the Galeotti sketch.

Plant very slender, 8.5–19 cm. tall, caespitose. Roots few, dilated from a slender base, verrucose. Stem entirely concealed by close tubular leaf-sheaths, 2.5–4.5 cm. long below the inflorescence, leafless below with the lowermost sheath aphyllous. Leaves elongate-subulate, 2.2–6.7 cm. long, 1 mm. or less wide, acute, strict. Inflorescence arcuate and loosely few-flowered, racemose or a few-flowered panicle. Peduncle up to inflorescence filiform, 1.2–7.2 cm. long, entirely invested by long tubular membranaceous sheaths. Bracts of the inflorescence inconspicuous, lanceolate, amplexicaul, scarious. Rachis flexuous. Flowers shades of yellowish brown according to the Galeotti sketch, small, apparently with spreading perianth segments when fresh, membranaceous. Sepals strongly concave. Lateral sepals elliptic-lanceolate, 6.8 mm. long, about 2.3 mm. broad when expanded, complicate-acute, dorsally carinate at the apex, oblique at base. Dorsal sepal similar, 6.3 mm. long, about 2 mm. broad when expanded. Petals oblanceolate-linear, 6 mm. long, 1 mm. broad above the middle, acute or subacute. Lip simple, in our specimen obovate in outline with a slightly contracted claw-like base (the Galeotti drawing shows a more round-ovate lip), exceeding the sepals, adnate about to the middle of the column, retuse in our specimen (apparently acute in the Galeotti sketch), about 5–5.5 mm. long, 4.4 mm. wide, strongly plicate-undulate, margins erose; disc provided at the base with an ovate flattened paten, the three central nerves marked by low crenulate keels of which the lateral keel on each side is more or less branched. Column small, clavate, about 2.2 mm. long. Capsule ellipsoid, with a slender pedicel.

Epidendrum subulatifolium appears to have no very close allies.

MEXICO, Oaxaca, fleurs jaunes, en Mai. Sur les chênes des districts calcaires à 7800 ft., 1840. *Galeotti 5073* (TYPE in Herb. Reichenbach); Oaxaca, Sierra, 7,000 feet altitude, *Galeotti 5326*: State of Guerrero, Ojo de Agua in mountains near Mochitlán, in oak forest. June 20, 1932. *Erik M. Östlund 823* (Collector Juan G.).

Epidendrum tenuissimum Ames, Hubbard & Schweinfurth, *sp. nov.*

Herba gracillima, epiphytica. Radices paucae, crassae. Pseudobulbus ellipsoideus, prope apicem in collum angustum plurifoliatum contractus. Folia angustissime linearia. Inflorescentia folia subaequans, laxe pauciflora. Pedunculus filiformis. Flores membranacei. Sepala elliptico-lanceolata. Petala lineari-oblongeolata. Labellum prope apicem columnae adnatum, simplex, spatulato-oblongum, apice rotundatum; discus fascia mediana verrucosa percursa, utrinque carinis tribus humilibus crenulatis ornatus. Columna superne valde dilatata, apice trilobata.

Plant very slender, up to 15.4 cm. tall including the inflorescence. Roots few, fibrous, short, stout, glabrous. Pseudobulb ellipsoid, up to about 2.2 cm. long, covered by fibrous remains of sheaths, rugose in the dried specimen, contracted into a short caulescent neck which bears two to several leaves. Leaves narrowly linear, 8–10.7 cm. long, about 1.5–2 mm. wide (sometimes conduplicate), obtuse or subacute. Inflorescence equalling or exceeding the leaves, racemose or subpaniculate, few-flowered (three or four). Peduncle up to the raceme filiform, about 7.5–8.5 cm. long, concealed below by about two closely imbricating tubular scarious evanescent sheaths and provided above with two shorter remote tubular evanescent sheaths. Bracts of the inflorescence inconspicuous, small, scarious, amplexicaul. Flowers medium-sized but large for the plant, membranaceous. Lateral sepals oblong-lanceolate, 8.8–9.8 mm. long, about 2–2.5 mm. wide,

complicate-acute, dorsally carinate at the apex. Dorsal sepal similar, 8–9.6 mm. long, 2.5–2.7 mm. broad, obtuse or acute. Petals linear-oblongate, 8–10 mm. long, 1.4–1.9 mm. wide above the middle, acute or subacute. Lip simple, adnate nearly to the apex of the column, spatulate-oblong, 7 mm. or more long, 4–4.7 mm. wide, rounded, margin irregular; disc provided at base with an ovate paten and above with a broad verrucose band through the center and three low crenulate keels on each side. Column short, abruptly dilated above, 3-toothed at the apex, the lateral teeth more prominent and obliquely quadrate, about 4.1 mm. long to the apex of the lateral teeth.

Epidendrum tenuissimum is florally a close ally of *E. luteoroseum* A. Rich. & Gal., but differs from that species in the form of the petals and in the relative length of the sepals and petals. The disc of the lip also differs in having a broad verrucose band and six crenulate keels, whereas *E. luteoroseum* has five rows of papillae. Vegetatively *E. tenuissimum* is much smaller than *E. luteoroseum* and its leaves are very different.

MEXICO, State of Michoacan, summit of Barranca de las Minas, about 25 kilometers southeast of Uruapan, on oaks. At 1,600 meters altitude. May 2, 1933. Erik M. Östlund 2246 (Collector O. Nagel) (Type in Herb. Ames No. 39911.)

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